

STATE OF CALIFORNIA



CONSUMER POWER AND
CONSERVATION
FINANCING AUTHORITY

ENERGY RESOURCES
CONSERVATION AND
DEVELOPMENT COMMISSION

PUBLIC UTILITIES
COMMISSION

DRAFT ENERGY ACTION PLAN

California is a diverse and vibrant society. The fifth largest economy in the world, our population is expected to exceed 40 million by 2010. California's economic prosperity and quality of life are increasingly reliant upon dependable, high quality, and reasonably priced energy. Following the biggest electricity and natural gas crisis in its history, the State is well aware of the need for stable energy markets, reliable electricity and natural gas supplies, and adequate transmission systems. Looking forward, it is imperative that we have reasonably priced and environmentally sensitive energy resources to support economic growth and attract the new investment that will provide jobs and prosperity throughout the state.

California's principal energy agencies have joined to create an Energy Action Plan. It identifies specific goals and actions to eliminate energy outages and excessive price spikes in electricity or natural gas. These initiatives will send a signal to the market that California is a good place to do business and that investments in the more efficient use of energy and new electricity and natural gas infrastructure will be rewarded. Our approach recognizes that we currently have a hybrid energy market and that State policies can capture the best features of a vigorous, competitive wholesale energy market and renewed, positive regulation.

Our Goal

The goal of the Energy Action Plan is to:

Ensure that adequate, reliable, and reasonably-priced electrical power and natural gas supplies, including prudent reserves, are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers.

The energy agencies intend to achieve this through five specific means:

- Meet California's energy growth needs while optimizing energy conservation and resource efficiency and reducing per capita electricity demand.
- Ensure reliable, affordable, and high quality power supply for all who need it in all regions of the State by building sufficient new generation, including accelerating the State's goal for renewable resource generation.
- Upgrade and expand the electricity transmission and distribution infrastructure and reduce the time needed facilities before are brought on line.
- Promote customer and utility owned distributed generation.
- Ensure a reliable supply of reasonably priced natural gas.

We are Accountable for Stewardship of California's Energy Future

The State's principal energy agencies are committed to active and continued cooperation. This is unprecedented. To implement this Energy Action Plan we pledge:

- To discuss critical energy issues jointly through open meetings and ongoing informal communication.
- To share information and analyses to minimize duplication, maximize a common understanding and ensure a broad basis for decision-making.
- To bring joint policy recommendations about major energy issues to the Governor and Legislature.

The State needs to guide development of the energy system in the public's best long-term interest, to anticipate potential problems, and to make timely decisions to resolve problems. Specifically, we commit to:

- Provide decision-makers impartial assessments of the State's immediate and long-term electricity and natural gas demands, resources, and prices.
- License and, where appropriate, fund construction of new energy facilities that are consistent with the reliability, economic, public health, and environmental needs of the State.
- Restore the utilities' ability and obligation to serve, recognizing this is a critical component of the current hybrid energy system.
- Restore investor and private sector confidence in California's energy markets.
- Develop an "early warning" system to alert policy makers of potential future problems.
- Work with FERC to redesign market rules and prevent manipulation of the energy markets.
- Partner with governmental and other groups in western North America to pursue commonly held energy goals.

Shared Principles and Strategies Will Guide our Stewardship

Achieving the overall goal and implementing the proposed actions requires close cooperation between the State's energy agencies and means establishing and following common principles and strategies. In particular, we intend to use market forces and regulatory approaches to operate the system in the best, long-term interest of the public: the consumers, the ratepayers, and the taxpayers. This means our actions will attract private investment into California's energy infrastructure to stretch and leverage public funds and consumer dollars. We must also provide appropriate regulatory

guidance, price signals, and incentives to all consumers to use energy efficiently. We will moderate price increases, achieve rate stability, and provide affordable energy, particularly for low-income consumers, through progressive rate design.

To protect the public's health and safety and ensure our quality of life, we support the most cost-effective and environmentally sound strategies. We also will work to ensure that low income populations do not experience disproportionate adverse impacts from the development of new energy systems.

Our Approach Will be Open and Timely

Achieving the overall goal requires thoughtful planning, followed by specific, timely actions. This process begins with an ongoing assessment of the current and future energy system and the State's economic needs. It must consider a range of risks and uncertainties and must identify and inform policy makers of potential shortfalls and vulnerabilities. The agencies and State policy makers need to respond by carefully considering available options, balancing costs and benefits to meet State goals, selecting policy choices, and devising actions to implement those policy choices. The result must be a set of interrelated actions that complement each other, provide risk protection, and eliminate the costs and conflicts that would occur if we pursue isolated, uncoordinated objectives. Each agency will need to implement the action plan in its individual proceedings but in concert with each other.

The Action Plan envisions a "loading order" of energy resources that will guide decisions made by the agencies jointly and singly. First, we want to optimize all strategies for increasing conservation and energy efficiency to minimize unnecessary increases in electricity and natural gas demand. Second, recognizing that new generation is both necessary and desirable, we would like to see these needs met first by renewable energy resources and distributed generation. Third, because our preferred resources require both sufficient investment and adequate time to "get to scale", we will also support additional clean, fossil fuel, central-station generation. Simultaneously, we intend to improve the bulk electricity transmission grid and distribution facility infrastructure to support growing demand centers and the interconnection of new generation.

Energy Services are Growing, are Essential, and the Delivery Systems are Complex

As a context for this plan, Californians must realize the essential and complex nature of our energy resources. Currently the state uses 265,000 gigawatt-hours of electricity per year. This amount is growing 2 percent annually. Over the last decade, between 29 percent and 42 percent of our in-state generation came from natural gas. Another 10 - 20 percent was provided by hydroelectric power that is subject to significant annual variations. Almost one third of our entire in-state generation base is over 40 years old. Our transmission system is also aging and was not designed to handle the current loads or serve our shifting load centers. While in-state generation resources provide a majority of our power, California is part of a larger system that includes all of western North America. Fifteen to thirty percent of our electricity demand is served from sources

outside our state borders.

Peak electricity demands occur on hot summer days. Our highest peak demand was 52,863 megawatts and occurred July 10, 2002. Peak demand is growing at about 2.4 percent per year, roughly the equivalent of three new 500-megawatt power plants. The primary contributor (about 40 percent) to our combined residential and commercial summer peak electricity demand is air conditioning.

Our demand for natural gas also is increasing. Currently the state uses 2 trillion cubic feet of natural gas per year. Historically the primary use of this fuel was for space heating in homes and businesses. The electricity generation dependence on relatively clean-burning natural gas now means that our annual natural gas use by power plants is expected to increase. Overall, natural gas usage is growing by 1.6 percent per year. Eighty-five percent of our natural gas is supplied by pipelines from sources outside California.

Five Actions

We propose five sets of actions of critical importance that need to be undertaken now. These are:

1. Optimize Energy Conservation and Resource Efficiency

California should seek to decrease its per capita electricity use through increased energy conservation and efficiency measures. This would minimize the need for new generation, avoid environmental concerns, improve energy reliability, and contribute to price stability. Optimizing conservation and resource efficiency will include the following specific actions:

1. Implement a voluntary dynamic pricing system to reduce peak demand by as much as 1,500 to 2,000 megawatts by 2004.¹
2. Improve new and remodeled building efficiency by 5 percent.²
3. Improve air conditioner efficiency by 10 percent.³
4. Make every new state building a model of energy efficiency.
5. Create customer incentives for aggressive energy demand reduction.
6. Provide utilities with demand response and energy efficiency investment rewards comparable to the return on investment in new power and transmission projects.
7. Increase local government conservation and energy efficiency programs.

¹ Georgia Power achieved more than 5 percent peak savings as a result of their dynamic pricing tariffs. The composition of households, businesses and industries in California, however, is sufficiently different that achieving the same level of peak savings is unlikely within the next few years. California is actively evaluating and implementing such pricing systems in a CPUC rulemaking (R.02-06-011).

² The Energy Commission's 2005 building standards, to be adopted in 2003, when combined with training and enforcement, are expected to reduce energy needs in new buildings by approximately 5 percent.

³ New federal appliance standards will increase air conditioner efficiency by approximately 20 percent, but if California is granted a waiver from Federal standards by 2007 based on California's drier-than-national-average climate, California air conditioner efficiency would increase another 10 percent.

II. Ensure Reliable, Affordable Electricity Generation

The State needs to ensure that its electrical generation system, including reserves, is sufficient to meet all current and future needs, and that this reliable and high quality electricity comes without over-reliance on a single fuel source and at reasonable prices. To these ends the State will:

1. Add new generation resources of 1500 - 2000 MW per year⁴ to meet anticipated demand growth, modernize old, inefficient and dirty plants and achieve and maintain reserve levels in the 15 percent-18 percent range⁵.
2. Add a net average of at least 385 MW of new renewable generation sources annually⁶.
3. Finance a few critical power plants that the agencies conclude are necessary and would not otherwise be built⁷. An estimated 300 MW of peaking capacity located in critical areas is needed to provide local reliability, help achieve adequate reserves, and reduce congestion and the need for new transmission lines⁸.
4. Monitor the electricity market to identify and correct any exercise of market power and manipulation, and improve FERC-established market rules.

III. Upgrade and Expand the Electricity Transmission Infrastructure

The State will reinvigorate its planning, permitting, and funding processes to assure that necessary improvements and expansions to the bulk electricity grid are made on a timely basis. At least three vital transmission corridors need immediate expansion: the main transmission system in central California (Path 15); the link between California and the southwest (Palo Verde-Devers); and the interconnection with the Tehachapi wind resource area.⁹ As a part of this objective the agencies will:

1. Collaborate in the California Energy Commission's integrated energy planning process created last year by Senate Bill 1389 and utilize the results of this process to help determine the need for particular bulk transmission projects. This

⁴ Peak demand growth is expected to be approximately 1,400 MW per year for the next two years, depending on temperature, weather and other factors. With uncertainty about how much power plant retirement will occur and how much of the anticipated new power will become available on schedule, the amount of new power needed is presented as a range.

⁵ The Western Electricity Coordinating Council (WECC) has established minimum operational requirements of loss-of-load probability of no more than one day in ten years. Current information suggests that the WECC criteria can be met with approximately 15 – 18 percent reserve margins.

⁶ Electricity sales by the Investor-owned utilities totaled about 169,000 GWh in 2001. The renewables portfolio standard requires an annual increase in renewable generation equivalent to 1 percent of sales, or about 1,700 GWh. Assuming a capacity factor of about 50 percent, this is roughly equivalent to 385 MW.

⁷ The CPA has the authority to finance new power plants.

⁸ The CAISO in 2002 identified generation-deficient areas and sub-areas within its control area, such as the greater Bay Area, Humboldt, Battle Creek and Vaca Dixon. Although some of these constraints may be solved by transmission improvements, it is more cost-effective to add new generation in some areas.

⁹ The Public Utilities Commission is currently considering an application to expand Path 15 (A.00-04-####) and the federal Western Area Power Administration is advancing a transmission project for this region. The Public Utilities Commission is also investigating options for expanding transmission service to the Tehachapi wind resource area (I.01-11-011), with the active participation of the Independent System Operator.

collaboration will build upon the Independent System Operator's annual transmission plan and evaluate transmission, generation and demand side alternatives.

2. Build sufficient new transmission lines to assure reliable, high quality power supply in all regions of the State.

IV. Promote Customer and Utility Owned Distributed Generation

Distributed generation is an important local resource that can enhance reliability and provide high quality power, without compromising environmental quality. The State should promote and encourage clean and renewable customer and utility owned distributed generation as a key component of its energy system. Clean distributed generation should enhance the state's environmental goals. Such resources are virtually guaranteed to serve California load. With proper inducements distributed generation will become economic.

1. Promote clean, small generation resources (under 20 megawatts), self-generation and cogeneration, located at load centers.
2. Exempt installations of clean technologies such as fuel cells, solar installations, and microturbines from all exit fees (but not bond fees) until they total 1 percent of the total generation market.
3. Value system benefits of distributed generation and any related costs.
4. Develop standards so that renewable distributed generation may participate in the Renewable Portfolio Standard program.
5. Standardize definitions of eligible distributed generation technologies across agencies to better leverage programs and activities that encourage distributed generation.

V. Ensure Reliable Supply of Reasonably Priced Natural Gas

The high and volatile price of natural gas contributed significantly to the energy crisis in 2000-2001, and concerns about manipulation of the market and scarcity persist. The Governor's Natural Gas Working Group was formed to monitor natural gas demand, supply and price issues and facilitate the construction of California infrastructure projects. Yet California remains vulnerable to the volatile spot market. We will pursue the following actions:

1. Identify critical new gas transmission, distribution and storage facilities needed to meet our future needs.
2. Monitor the market to identify and correct the exercise of market power and manipulation.
3. Evaluate the net benefits of increasing the State's natural gas supply options, such as liquefied natural gas.
4. Support electric utilities and gas distribution companies entering into longer term contracts as a hedge against volatile and high spot market prices.

While implementation of this Action Plan represents a challenge, it is an important step for the agencies to take together to help achieve the State's overall goal of adequate, reliable, and reasonably-priced electrical power and natural gas supplies.